

A NEW SPECIES OF *MACROTRISTRIA* STÅL FROM THE SHOALWATER BAY REGION OF CENTRAL QUEENSLAND (HEMIPTERA: CICADIDAE: CICADINAE)

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Abstract

Macrotristria stevewilsoni sp. n. is described from a remote coastal locality in the Shoalwater Bay region, central Queensland. The species exhibits a distinctive appearance when compared with its congeners and may be quite restricted in distribution.

Introduction

The genus *Macrotristria* Stål contains a group of large cicadas distributed across eastern, northern and western Australia, being most diverse in the north (Moulds 1990). It was revised substantially by Burns (1964), with additional species described subsequently by Moulds (1992). The definition of the genus was recently redefined by Moulds (2012), including a useful set of distinguishing features. It currently includes 18 species endemic to Australia and one species from Madagascar (Moulds 2012). The new species described here is known only from a single locality in the Shoalwater Bay region of central Queensland. It was discovered through the donation of a pair of specimens collected from this region during an expedition that took place in 1992. Terminology for morphological features and higher classification follows Moulds (2005).

Genus *Macrotristria* Stål

Macrotristria stevewilsoni sp. n.

(Figs. 1A-C, 2A-B, 3)

Type material. *Holotype* ♂, QUEENSLAND: [all hand written] 4.5 km N.W. Cliff Pt, 22°37'17"S, 150°46'22"E, Shoalwater Bay, 6-2-92 [6.ii.1992], S. Wilson. *Paratype* ♀, [all hand written] 4.5 km N.W. Cliff Pt, Shoalwater Bay, 8 Feb 1992, S. Wilson, *Macrotristria* sp. Both in Queensland Museum, Brisbane (Reg. Nos QMT23470 (Holotype) and QMT23471 (Paratype)).

Description. Male (Figs 1A-B, 2A-B). *Head.* Supra-antennal plate dark reddish brown to black with brown to orange brown along posterior margins; postclypeus reddish brown, dark brown to black centrally, with a yellow-brown spot on anterior; dorsal surface medially yellow brown, streaked dark brown and reddish brown laterally; gena pale brown, with long silver pubescence; mandibular plate dark brown to black, paler along margins, covered by long silver pubescence; frons black, yellow brown anteriorly; vertex yellow brown with a black ring on each lateral side, extending to supra-antennal plate and area surrounding ocular tubercles, with sparse silver pubescence; ocelli pale red; compound eyes brown; anteclypeus reddish brown with long silver pubescence, rostrum black, dark brown at base and

along lateral edges, extending to posterior margins of hind coxae; antennae deep brown to black, pedicels brown proximally, dark brown distally.

Thorax. Pronotum mainly reddish brown, pale brown on medial anterior margin, with a yellow brown longitudinal fascia medially, broader proximally and bordered with dark reddish brown to black, extensively so around posterior edge of fascia; pronotal collar pale brown to dull brown, dark brown along posterior margin; narrow dark brown band commonly also present adjacent to pronotal collar. Mesonotum mainly yellow brown with a black fascia extending from area surrounding scutal depressions, narrowing proximally and terminating acutely without reaching anterior margin; submedial sigilla dark reddish brown to black, discrete; lateral sigilla diffuse dark reddish brown, somewhat irregular in outline, posteriorly rounded, just reaching anterior arms of cruciform elevation; cruciform elevation yellow brown to reddish brown, with a conspicuous darker brown or black area between anterior arms, surrounded with long silver pubescence; scutal depressions black. Metanotum dark brown, pale brown on posterior margin.

Wings. Forewings: pterostigma pale brown, semi-opaque; basal membrane red; distinct infuscations along crossveins r, r-m, m and m-cu, and at the distal ends of veins RA₂, RP, M₁, M₂, M₃, M₄ and CuA₁; colour of costal veins pale brown, CuP+1A and CuA₂ yellow brown, remaining venation brown to orange-brown. Hindwings without infuscations; plagas and areas surrounding veins 3A and 2A mainly white with diffuse red patches; colour of veins CuA, M, RA and av tending dark brown, other veins grading from pale brown to brown.

Legs. Fore coxae pale brown with brown streaks, brown on anterior faces; fore femora brown to orange with dark brown spines; mid and hind coxae dominantly brown to pale brown, darker medially on anterior faces; meracantha spikes small, pale brown, barely overlapping opercula; mid and hind femora brown tending reddish brown anteriorly; fore and mid tibiae mostly reddish brown, dark brown to black basally and, to a lesser extent, apically; hind tibiae dominantly reddish brown, darker apically and on spines; tarsi dark brown on outer sides, pale brown on inner sides; pretarsi dark reddish brown.

Opercula. Outline broadly rounded, not overlapping; plates gently domed in disto-medial area, mainly pale brown, tending dark brown to black towards inner margins and reddish brown on lateral edges.

Abdomen. Tergite 2 with well-developed flexing on paramedial anterior segment, appearing as a weak flange when viewed ventrally; tergite 1 dark reddish brown; tergites 2 to 7 each conspicuously reddish brown medially, dark brown to black anteriorly and laterally, with conspicuous silver pubescence; tergite 8 reddish brown to brown, dark brown to black towards posterior margin; sternite I pale brown; sternite II dark brown; sternites III-VIII reddish brown.

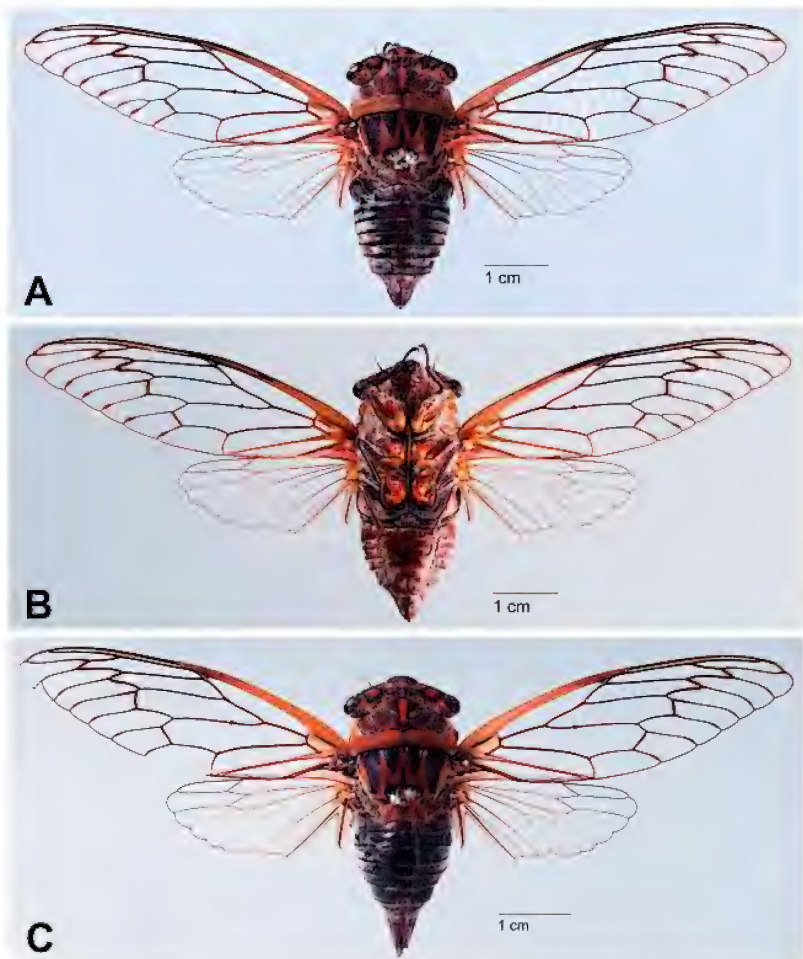


Fig. 1. (A-C) *Macrotristria stevewilsoni* sp. n., 4.5 km north-west of Cliff Pt, Shoalwater, central Queensland (22°37'17"S 150°46'22"E): (A) male holotype dorsal view; (B) male holotype ventral view; (C) female paratype dorsal view.

Genitalia. Pygofer brown, tending dark brown to black laterally posteriorly, including dorsal beak; upper lobes rounded in both lateral and dorsal views; basal lobes visible in lateral and dorsal views, with expanded rounded apices, covered in conspicuous hairs; uncus undivided, long, as wide as distance between upper pygofer lobes, with rounded termination (Fig. 2). Internal features not examined.

Timbals. Almost completely enclosed by timbal covers; appearing to have a form typical of the genus, with long ribs visible. [The timbal covers of the holotype male were not removed for further examination].

Female (Fig. 1C). Colouration and markings similar to male. Abdominal segment 8 reddish brown dorsally and ventrally, pale brown to brown laterally, with distinct, black, longitudinal markings along dorsolateral sides and surrounding dorsal beak. Ovipositor brown, dark apically; ovipositor sheath reaching <1 mm beyond anal styles and dorsal beak.

Measurements. N = 1 ♂, 1 ♀, mm; body length: ♂ 39.4; ♀ 37.5; forewing length: ♂ 51.4; ♀ 46.4; hindwing length: ♂ 16.7; ♀ 15.7; head width: ♂ 15.7; ♀ 14.8; abdomen width: ♂ 15.7; ♀ 13.2; forewing length/width ratio: ♂ 3.17; ♀ 3.09.

Distinguishing characters. *Macrotristria stevewilsoni* exhibits a unique appearance that easily distinguishes it from all other Australian species in the genus. It differs from *M. bindalia* Burns, *M. dorsalis* Ashton, *M. douglasi* Burns, *M. extrema* (Distant), *M. frenchi* (Distant), *M. intersecta* (Walker), *M. kulungura* Burns, *M. lachlani* Moulds, *M. vittata* Moulds and *M. worora* Burns by the presence of distinct infuscations along crossveins r, r-m, m and m-cu, and at the distal stems of veins RA₂, RP, M₁, M₂, M₃, M₄ and CuA₁. It can be distinguished from *M. angularis* (Germar), *M. kabikabia* Burns and *M. maculicollis* Ashton by having a predominantly dark brown to reddish brown, rather than black, abdomen and by possessing a white, as opposed to extensively orange, hindwing plaga. It differs from *M. godingi* Distant and *M. sylvara* (Distant) by the interior colouration of the pronotum, which is reddish brown rather than predominantly yellow-brown or green. It differs from *M. hieroglyphicalis* (Kirkaldy) and *M. thophoides* Ashton by having mainly hyaline, rather than dark brown, basal cells on the forewings and from *M. doddi* Ashton by having a conspicuous black border encompassing the central fascia of the pronotum.

Distribution, habitat and behaviour. *Macrotristria stevewilsoni* sp. n. is known from a single location on military land to the northwest of Cliff Point in the Shoalwater Bay region of central Queensland (Fig. 3). The site is mapped as regional ecosystem 8.2.14, which is characterised by coastal dune vegetation dominated by *Banksia integrifolia*, *Corymbia tessellaris* and/or *Acacia disparrima*, with additional species typically associated with rainforest communities (Queensland Herbarium 2015). This habitat type is also present in the Byfield area further south; however this species has not been encountered there, despite multiple cicada collecting expeditions to this area (M.S. Moulds pers. comm.). This cicada also has the potential to occur along the coast further north in central Queensland (e.g. Whitsunday Coast); however, this would be dependent on the distribution of the species crossing the St Lawrence Gap, a conspicuous >100 km wide dry corridor that includes the coastline (Webb and Tracey 1981, Chapple *et al.* 2011, Fig. 3).

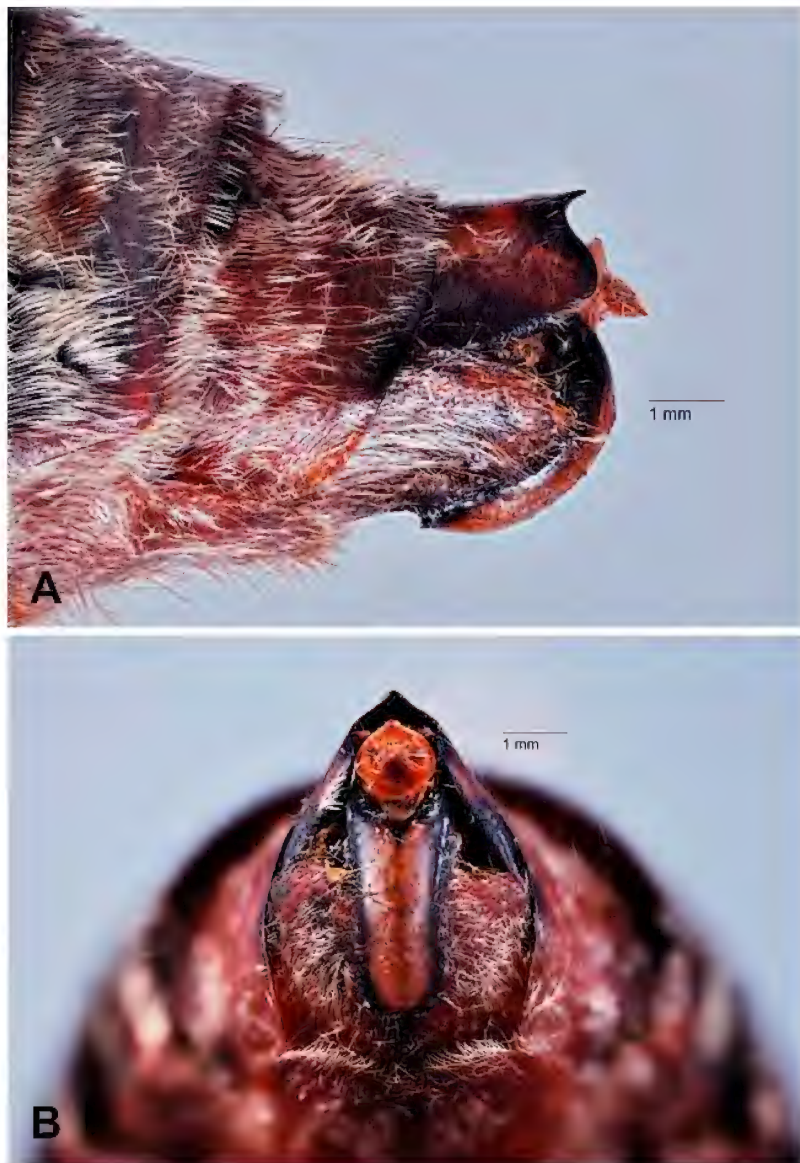


Fig. 2. *Macrotristria stevewilsoni* sp. n., holotype male: (A) pygofer viewed laterally from left; (B) pygofer viewed from a posterior ventral angle to reveal the presentation of the uncus.

Other reasons for the lack of detection of this species outside the Shoalwater Bay area could include a multiple-year life cycle, such that populations appear as adults infrequently. When present, as for other species in the genus, adults most likely position themselves on the upper branches of trees, although observations on this particular species are currently lacking.

Calling song. The males possess well-developed timbals for song production. Other species in the genus typically produce a loud whine; however the call of this new species currently remains unknown.

Etymology. This new *Macrotristria* species is named in honour of Mr Steve Wilson, a respected herpetologist, who has a long-standing interest in cicadas and collected the only available specimens.

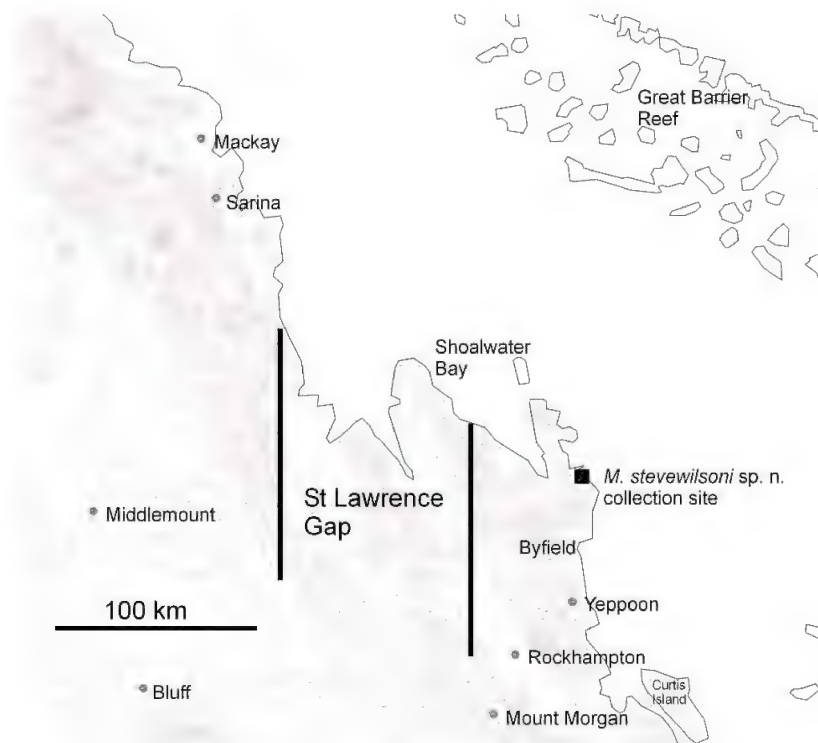


Fig. 3. Map of coastal central Queensland showing the single location where the two available specimens of *Macrotristria stevewilsoni* sp. n. were collected.

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